

RELATIONSHIPS BETWEEN RISK FACTORS

In order to understand the connections among various risk factors, a correlation analysis¹ was conducted using the risk factor indices described above. The analysis examined the tendency for different behaviors to occur together. A high positive correlation between two sets of behaviors means that there is a high probability that if students engage in the first set of activities they will also engage in the second set as well. A high negative correlation means that if a student engages in the first set of activities, they are less likely to engage in the second set. The size of the correlation (from 0 to 1) indicates the size of the relationship. That is, a correlation of 1 would mean that every time the first factor is present, the second factor will be present as well. A correlation of zero means that the second factor is no more likely to be present with the first factor than it would be merely by chance.

Highlights

- Strong correlations exist among alcohol and other drug use, tobacco use, and vehicle safety.
- Sexual activity is weakly correlated with alcohol use and is strongly correlated with other drug use, tobacco use, violence, and taking risks with vehicle safety.
- Violence is correlated with alcohol and other drug use, sexual activity, suicide, tobacco use and vehicle safety.

Risk Factors Indices

The analysis of risk factor indices provides an understanding of the interconnection of risky behaviors in broader categories. Most of the risk factor indices were correlated to other risk factor indices (see Table 1). Of the 55 index pairs, 46 were statistically significant. Nine had strong correlations over 0.35, seven had moderate correlations between 0.25 and 0.34 and 11 had weak correlations between 0.15 and 0.24. The highest and most interrelated correlations were found between alcohol use, drug use, tobacco use, and vehicle safety, with correlations ranging from 0.38 to 0.63. All four of these indices were highly correlated with each other, indicating a high level of interconnection among these activities. In other words, students who engaged in many risky behaviors in any one of these areas were very likely to engage in risky behaviors in the others as well. So, for example, a student who engaged in many risky drug use behaviors would also be very likely to engage in risky vehicle, tobacco, and alcohol use. It should be noted, however, that these high correlations in no way indicate that activity in any one of these areas causes increased activity in the others. That is, these high correlations do not imply that if risky behavior in one area could be reduced, risky behavior in the others would necessarily decline.

In addition, sexual activity was highly correlated with drug use, tobacco use and taking risks with vehicle safety. Smaller, yet still important, correlations were found between violence and alcohol, drug use, sexual activity, suicide, tobacco use and taking risks with vehicle safety. Weapons use was weakly correlated with alcohol, drug use, sexual activity, tobacco use and violence.

¹ Using a Spearman's rho correlation.

Table 1 - Risk Factor Index Correlations

	Alcohol	Nutrition	Dieting	Drugs	Exercise	Sexual Activity	Suicide	Tobacco	Vehicle Safety	Violence
Nutrition										
Dieting										
Drugs	+++									
Exercise		+								
Sexual Activity	++			+++						
Suicide	+		+	++		+				
Tobacco	+++			+++		+++	+			
Vehicle Safety	+++			+++		+++		+++		
Violence	+			++		++	++	++	++	
Weapons	+			+		+		+	++	+

+ signifies correlations from 0.15 to 0.24

++ signifies correlations from 0.25 to 0.34

+++ signifies correlations equal to or greater than 0.35

In sum, this analysis highlights the strong connection between several behaviors including drug use, alcohol use, sexual activity, and tobacco use and to a lesser degree, violence, and vehicle safety. Students who engaged in a high number of risk behaviors in one of these areas is more likely to also engage in a high number of risk behaviors in another one. From these findings, it is evident that alcohol, drugs, sexual activity and tobacco are part of a pattern of risky behaviors and any method of intervention must treat them as such. Indeed, the high correlation of these risk behaviors provide substantial support for integrated and multifaceted approaches to preventing health risk behaviors.

